



Title:	<b>Welding Level 1</b>
Edition:	<b>6</b>
Publication Date:	<b>2022</b>
Additional Instructor Requirement(s):	<b>None</b>
Previous Edition Expiration Date:	<a href="http://www.nccer.org/expirations">www.nccer.org/expirations</a>



Book Module Number	Module Name	5 <sup>th</sup> Edition Mod ID #	6 <sup>th</sup> Edition Mod ID #	6 <sup>th</sup> Edition Hours	5 <sup>th</sup> Edition Hours	Equivalent Registry Module(s)	Performance Profile	Comments
---	<b>Core</b>	---	---	<b>77.5</b>	72.5	---	---	<ul style="list-style-type: none"> <li>Core: To meet DOL Apprenticeship Standards for required hours of related technical instruction, Core should be included.</li> </ul>
1	<b>Welding Safety</b>	29101-15	<b>29101</b>	<b>5</b>	5	29101-15 29101 (5E)	No	<ul style="list-style-type: none"> <li>Strengthened content on safety guidelines, fire extinguishers and toxic metal fumes</li> <li>Improved clarity and reading grade level</li> <li>Replaced photos with newer ones and varied welding brands</li> </ul>
2	<b>Oxyfuel Cutting</b>	29102-15	<b>29102</b>	<b>17.5</b>	17.5	29102-15 29102 (5E)	Yes	<ul style="list-style-type: none"> <li>Added new content on gas pressure and interpreting pressure gauges</li> <li>Improved and clarified oxyfuel procedures, especially torch leak-down testing</li> <li>Updated the Performance Accreditation Task</li> <li>Improved clarity and reading grade level</li> </ul>
3	<b>Plasma Arc Cutting</b>	29103-15	<b>29103</b>	<b>7.5</b>	7.5	29103-15 29103 (5E)	Yes	<ul style="list-style-type: none"> <li>Updated and clarified safety guidelines for cutting and welding containers that may have contained flammable, explosive, or toxic materials</li> <li>Updated the Performance Accreditation Task</li> <li>Improved clarity and reading grade level</li> </ul>
4	<b>Air Carbon Arc Cutting and Gouging</b>	29104-15	<b>29104</b>	<b>5</b>	10	29104-15 29104 (5E)	Yes	<ul style="list-style-type: none"> <li>Added new graphical lens shade guide created from OSHA data</li> <li>Improved clarity and reading grade level</li> </ul>
5	<b>Base Metal Preparation</b>	29105-15	<b>29105</b>	<b>10</b>	12.5	29105-15 29105 (5E)	Yes	<ul style="list-style-type: none"> <li>Improved the weldment load explanations</li> <li>Improved the weld type and weld preparation content</li> <li>Updated several graphics to show correct weld preparations for the weld type</li> <li>Updated the Performance Accreditation Tasks</li> </ul>
6	<b>Weld Quality</b>	29106-15	<b>29106</b>	<b>10</b>	10	29106-15 29106 (5E)	Yes	<ul style="list-style-type: none"> <li>Updated the AWS Welding Procedure Specification example to the 2020 version</li> <li>Improved weld feature graphics</li> <li>Improved weld testing content</li> <li>Improved weld test specimen (AWS, ASME, and API) graphics</li> </ul>
7	<b>SMAW - Equipment and Setup</b>	29107-15	<b>29107</b>	<b>5</b>	5	29107-15 29107 (5E)	Yes	<ul style="list-style-type: none"> <li>Strengthened content on toxic metal fumes</li> <li>Added new content on conventional welding machine startup</li> <li>Added new content on engine-driven welding machine startup</li> <li>Improved clarity and reading grade level</li> </ul>
8	<b>SMAW Electrodes</b>	29108-15	<b>29108</b>	<b>2.5</b>	2.5	29108-15 29108 (5E)	No	<ul style="list-style-type: none"> <li>Replaced several photos with newer ones or those of other welding brands</li> <li>Improved explanation of the AWS electrode classification system</li> <li>Removed old MSDS info and replaced with current SDS examples</li> </ul>
9	<b>SMAW - Beads and Fillet Welds</b>	29109-15	<b>29109</b>	<b>100</b>	100	29109-15 29109 (5E)	Yes	<ul style="list-style-type: none"> <li>Updated the weld feature definitions and associated graphics</li> <li>Improved explanation of travel and work angles</li> <li>Added new Feature comparing learn to weld to learning to drive</li> <li>Added new content explaining how to produce tack welds</li> </ul>
10	<b>Joint Fit-up and Alignment</b>	29110-15	<b>29110</b>	<b>5</b>	5	29110-15 29110 (5E)	Yes	<ul style="list-style-type: none"> <li>Improved explanation and graphics introducing weldment thermal distortion</li> <li>Updated the weld feature definitions and associated graphics</li> <li>Clarified working with socket welds and setting the proper gap</li> </ul>
11	<b>SMAW - Groove Welds with Backing</b>	29111-15	<b>29111</b>	<b>60</b>	50	29111-15 29111 (5E)	Yes	<ul style="list-style-type: none"> <li>Added a new graphic illustrating acceptable/unacceptable weld profiles</li> <li>Improved weld preparation content and associated graphics</li> </ul>
12	<b>SMAW - Open Root Groove Welds - Plate</b>	29112-15	<b>29112</b>	<b>60</b>	60	29112-15 29112 (5E)	Yes	<ul style="list-style-type: none"> <li>Added a new graphic illustrating acceptable/unacceptable weld profiles</li> <li>Clarified all welding instructions and their associated graphics</li> <li>Updated the Performance Accreditation Tasks</li> </ul>
				<b>Total Hours</b>	<b>365</b>	357.5		

#### Definitions:

**Lock-Down Module:** A module adopted “as-is” from another craft or an earlier edition of the same curriculum.

**Equivalent Module:** A module whose learning and performance outcomes match those of the newer editions and is therefore considered ‘equivalent’ in NCCER’s Registry.

**Interim Credential:** A module, or group of modules, whose learning and performance outcomes demonstrates competence of specific components in an occupational area and results in a unique credential in the Registry.

#### Color Highlight Legend:

- = No Performance Test
- = Lock-Down Module
- = Equivalent Module
- = Deleted